WHAT IS CLAIMED IS:

1. A multi-layer substrate for a low noise block down converter, comprising:

an antenna pattern conveying an electric wave signal carried along a waveguide,

at least two ground conductive layers stacked on said antenna pattern with a dielectric layer therebetween,

wherein, in at least one of said at least two ground conductive layers, conductor is absent in at least part of a region that is closer to said waveguide than said antenna pattern is.

2. The multi-layer substrate for the low noise block down converter according to claim 1, wherein, in at least one of said at least two ground conductive layers, conductor is absent in a region directly below said antenna pattern.

3. The multi-layer substrate for the low noise block down converter according to claim 2, comprising three ground conductive layers, wherein, in the same level as that in which one of first and second ground conductive layers from above is provided, a dielectric layer is provided in a region that is closer to said waveguide than said antenna pattern is and, in the same level as that in which a third ground conductive layer from above is provided, a notch is provided in a region directly below said antenna pattern.

4. The multi-layer substrate for the low noise block down converter according to claim 2, comprising three ground conductive layers, wherein, in the same levels as those in which first and second ground conductive layers from above are provided, a dielectric layer is provided in a region that is closer to said waveguide than said antenna pattern is.

5. The multi-layer substrate for the low noise block down

converter according to claim 2, wherein a waveguide aperture is formed penetrating said at least two ground conductive layers and said dielectric layer and, in all of the same levels as those in which said at least two ground conductive layers are provided, conductor is provided around said waveguide aperture.

6. The multi-layer substrate for the low noise block down converter according to claim 5, comprising three ground conductive layers, wherein, in a third ground conductive layer from above, a notch is provided in a region directly below said antenna pattern.

7. The multi-layer substrate for the low noise block down converter according to claim 5, comprising three ground conductive layers, wherein, in the same level as that in which one of first and second ground conductive layers from above is provided, a dielectric layer is provided in at least part of a region that is closer to said waveguide than said antenna pattern is.

8. The multi-layer substrate for the low noise block down converter according to claim 5, wherein, in at least two of said at least two ground conductive layers, conductor is absent in at least part of a region that is closer to said waveguide than said antenna pattern is.

9. The multi-layer substrate for the low noise block down converter according to claim 8, comprising three ground conductive layers, wherein, in the same level as that in which first ground conductive layer from above is provided, a dielectric layer is provided in at least part of a region that is closer to said waveguide than said antenna pattern is and, in a third ground conductive layer from above, a notch is provided in at least part of a region directly below said antenna pattern.

10. The multi-layer substrate for the low noise block down converter according to claim 8, comprising three ground conductive layers,

wherein, in the same level as that in which one of first and second ground conductive layers from above is provided, a dielectric layer is provided in at least part of a region that is closer to said waveguide than said antenna pattern is and, in a third ground conductive layer from above, a notch is provided in a region directly below said antenna pattern.

11. The multi-layer substrate for the low noise block down converter according to claim 8, wherein, in at least two of said at least two ground conductive layers, conductor is absent in a region directly below said antenna pattern.

12. The multi-layer substrate for the low noise block down converter according to claim 11, comprising three ground conductive layers, wherein, in the same level as that in which one of first and second ground conductive layers from above is provided, a dielectric layer is provided in at least part of a region that is closer to said waveguide than said antenna pattern is and, in a third ground conductive layer from above, a notch is provided in a region directly below said antenna pattern.

13. The multi-layer substrate for the low noise block down converter according to claim 11, comprising three ground conductive layers, wherein, in the same levels as those in which first and second ground conductive layers from above are provided, a dielectric layer is provided in at least part of a region that is closer to said waveguide than said antenna pattern is.

14. The multi-layer substrate for the low noise block down converter according to claim 1, wherein a waveguide aperture is formed penetrating said at least two ground conductive layers and said dielectric layer and, in all of the same levels as those in which said at least two ground conductive layers are provided, conductor is provided surrounding an entire periphery of said waveguide aperture.

15. The multi-layer substrate for the low noise block down converter according to claim 14, comprising three ground conductive layers, wherein, in the same level as that in which one of first and second ground conductive layers from above is provided, a dielectric layer is provided in at least part of a region that is closer to said waveguide than said antenna pattern is and, in third ground conductive layer from above, a notch is provided in at least part of a region directly below said antenna pattern.

16. The multi-layer substrate for the low noise block down converter according to claim 14, comprising three ground conductive layers, wherein, in the same levels as those in which first and second ground conductive layers from above are provided, a dielectric layer is provided in at least part of a region that is closer to said waveguide than said antenna pattern is.